



"Sailors are our most valuable assets. Personnel readiness is central to our mission, and this readiness starts with safety. Make safety your responsibility."— ADM Vern Clark (CNO), Oct. 2002

MISHAPS

Security

SMBR was pulling an aircraft wash rack gate flight line gate closed and pulled the hard rubber wheel over her right foot. 7 Restricted Work Days

MWR

Employee stepped in a hole in the ground while lifting a picnic table. Sprained left foot. 5 Restricted Work Days

Employee was boarding a bus and fell causing multi-injury to her body. 8 Restricted Work Days

Employee was putting away equipment in the shed when she bumped her elbow on a wooden mirror. 4 Restricted Work Days

The Fourth of July

From About the USA, U.S. Diplomatic Mission to Germany

Independence Day is regarded as the birthday of the United States as a free and independent nation. Most Americans simply call it the "Fourth of July," on which date it always falls.

The holiday recalls the signing of the Declaration of Independence on July 4, 1776. At that time, the people of the 13 British colonies located along the eastern coast of what is now the United States were involved in a war over what they considered unjust treatment by the king and parliament in Britain. The war began in 1775. As the war continued, the colonists realized that they were fighting not just for better treatment; they were fighting for freedom from England's rule. The Declaration of Independence, signed by leaders from the colonies, stated this clearly, and for the first time in an official document the colonies were referred to as the United States of America.

4TH OF JULY SAFETY

Many of you will be traveling to family and friends during this holiday. Celebrations will include picnics, fireworks, barbeques, disfigurement and death.

Yes! I said disfigurement and death! Did I get your attention? I hope so because the coming holiday is

the most dangerous in the year. From 1978 to 2002 the Third and Fourth of July accounted for more than 8,200 deaths on our roads and highways. We would have to add the deaths for the 22, 23 and 24 of December to exceed the death toll of our upcoming celebration. The National Highway Traffic Safety Administration's most recent estimates indicate 40% of all traffic fatalities involved alcohol, and about 32% of these deaths included speeding. Please don't drink and drive, and if you must be out on our roads and highways be careful, remember that the other driver may not be sober.

Hey! Let's burn out Jimmy's eye. Better yet! Let's burn our house down! As I said above, celebrations will include fireworks. Each year thousands of people are injured and maimed, with several thousand fires started, by commercially available "safe" fireworks. About 60% of the injured are our children. Please let the professionals handle the fireworks. Every Fourth of July several of the surrounding cities put on beautiful fireworks displays for your enjoyment. Please watch and enjoy them, leaving the "safe" fireworks under the sales tent.



6/13/05 (AP)

You know that fireworks are dangerous. Last year, over 9000 people are injured using fireworks.

How much do you know about fireworks? Take our quiz (each answer is either true or false):

1. Children should never play with or light fireworks.
2. Adults should always keep a bucket of water handy in case of a malfunction or fire.
3. Adults should read and follow all warnings and instructions before using fireworks.
4. Adults should be sure that other people are out of range before lighting fireworks.
5. Sparklers burn at such high temperatures that they burn clothing.
6. A 7-year-old boy lost half of his left hand, including his fingers when he lit an M-80 he found hidden in a family bedroom.
7. An 8-year-old girl received second and third degree burns to her leg when a spark from a sparkler she was holding ignited her dress.

All are TRUE.

Heat-Related Illnesses

It's summertime, and that means activities and fun under the sun! Whether you love putting on shorts and feeling the warm outdoors, or find it hot and sticky, everyone must be careful not to let a heat-related illness spoil the day.

Heat-related illnesses can happen anytime during the year, indoors or out. Heat-related illnesses are progressive conditions, and can become life threatening. Normally, the body has ways of keeping itself cool, by letting heat escape through the skin and the evaporation of sweat (perspiration). If the body does not cool properly or enough, the victim may suffer a heat-related illness.

Heat-related illness usually comes in stages. A signal of the first stage is heat cramps in muscles. While not everyone first suffers from heat cramps, these cramps can be very painful. If you are caring for a person who has heat cramps, have him or her stop activity and rest. If the person is fully awake and alert, have him or her drink small amounts of cool water or a commercial sports drink. Gently stretch the cramped muscle and hold the stretch for about 20 seconds, then gently massage the muscle. Repeat these steps if necessary. If the victim has no other signals of heat-related illness, allow the person to resume activity after the cramps stop.

The signals of the next, more serious, stage of a heat-related illness (often called heat exhaustion) include:

- Cool, moist, pale skin (the skin may be red right after physical activity)
- Headache
- Dizziness and weakness or exhaustion
- Nausea
- The skin may or may not feel hot

The signals of the late stage of a heat-related illness (often called heat stroke) include:

- Vomiting
- Decreased alertness level or complete loss of consciousness
- High temperature
- Skin may still be moist or the victim may stop sweating and the skin may be red, hot and dry

This late stage of a heat-related illness is very serious and can be life threatening. Call 911.

General care for a heat-related illness:

- Stop activity and have the victim lie down in cool place with legs slightly elevated, about 6-12 inches
- Fan the victim
- If the person is fully awake and alert, have the victim drink small amounts of cool water
- Loosen tight clothing, and remove clothing that is soaked with perspiration
- Apply cool, wet cloths to the skin or ice packs in the armpits, wrists and ankles, and groin
- Watch for breathing problems
- Call 911, or the local emergency number, regardless of the stage of heat-related illness, if the person refuses water, vomits, or begins to lose consciousness or becomes less alert.

Steps can be taken to prevent heat-related illness.

First, some people who are at a higher risk for heat-related illness should take extra care to avoid a problem by taking breaks from activity, seeking a cool place, and drinking at least eight glasses of water a day or more if exercising or working strenuously. These people include: those who work or exercise outdoors or in a poorly cooled area; the elderly and young children; those with circulation or breathing problems; and those who have taken alcohol, certain drugs or medications.

Another group at risk are those who do not have enough cooling where they live. This situation is sometimes worsened if these people are unable or afraid to go somewhere cool or open their windows. It helps to check on these people on hot days.

Everyone should take care, especially those at higher-risk to take regular breaks and drink cool water when engaged in physical activity on warm days. Take time out to find a cool place. If you recognize that you, or someone else, are showing the signals of a heat-related illness, stop activity and find a cool place. Remember, have fun, but stay cool!

Evaluating Ergonomic Progress

Ergonomics News Vol.1, No. 1/ October 1995

Cumulative trauma disorders such as tendinitis and carpal tunnel syndrome represent about 62 percent of all new occupational illnesses.

In response, OSHA has conducted workplace inspections looking for ergonomic hazards. Reviewing mishap logs, compliance officers have looked for the injuries that typically indicate ergonomic problems at a facility. If compliance officers find sprains and strains and/ or back injuries on the log, they will evaluate jobs for risk factors such as repetitive motion, high frequency and poor posture.

If the inspector determines that there are unsafe ergonomic conditions, he or she can use the general duty clause to cite employers.

Our overall concept of office safety is still under construction, but the basic structure is recognizable. We now expect chairs at work to instantly accommodate our height preferences. A desk without a wrist rest or document holder seems somehow barren or incomplete.

We know what carpal tunnel syndrome is (more or less), and our initial astonishment that people can get hurt in the apparently innocuous act of typing is fading before the grim knowledge that there is little apparent reason that it won't happen to us personally.

The products of our awareness are controls devised to prevent repetitive strain injuries. They aren't in effect across the board; some companies use them and others do not.

The model for office safety includes two classes of controls:

Administrative controls such as exercise breaks and task allotments that shorten or stagger keyboard work sessions, and prevent the build-up of tensions, stress and micro-traumas that cause RSIs.

Environmental controls like adjustable furniture, proper equipment set-up and personal protective equipment allow workers to use efficient posture and biomechanics as they utilize administrative measures.

So far, so good...but in practice, most companies buy the hardware and let administrative controls take care of themselves or fall by the wayside entirely.

Ordering products is a straightforward process yielding tangible results. Administrative controls shoot at a fuzzier target: behavioral change. But the fact is that environmental controls are not effective substitutes for administrative controls.

To prevent RSIs, occupational physicians recommend that computer users take 5 minutes each hour to stretch and exercise. Ergonomic exercises are not optional—workers must exercise throughout the day to deter RSIs. This is where exercises from the Asian health arts and other forms of “complete”(utilizing mind and body) exercise offer immense value to American office workers.

For example, the martial and medical art of Tai Chi Chuan (pronounced “Tie Chee Chwan”) is acknowledged worldwide to develop optimally efficient posture and body mechanics. Tai Chi exercises, and the related Chi-Kung, or “Chinese yoga”, fill the ergonomic exercise prescription admirably by giving workers practical skills in injury prevention, hazard recognition, posture and body mechanics. These exercises also help workers adapt to static postures used in office work; this fact alone compels examination of Tai Chi exercises.

Focus on Posture

Unfortunately, office worker's needs for better whole-body posture often get lost in the furor over hands and wrists. The big muscles and joints (ankles, knees, hips, spine and shoulders) should support the body in an erect, upright position. When they do, the smaller structures of the hands and wrists can manipulate tools and materials without excessive strain.

If we type with feet flat on the floor, naturally upright posture and our hands in the air, as used to be taught in typing classes, our hands and wrists use the highest degree of mechanical efficiency, from of unnecessary strain.

What about people who say they "just have to" sit their hands and wrists down to type, be it on a wrist rest, they keyboard or the desk? As soon as they do, the upper back and shoulders stop supporting the hands and forearms. This puts a strain on the wrists, since each keystroke now requires the wrists and forearms to support the hands so the fingers may select and depress the keys.

That's not all. People who put their hands down to type very often slump in their chairs-or, while leaning against the back, allow their hips and lower backs to sag backward, which cuts the mechanical physiology of the upper and lower body into two separate entities. Slumping posture inhibits breathing by compressing the rib cage and diaphragm.

How can workers develop better posture? One doctor at the University of California believes the answer is: "they can't."

Dr. R.: "The problem is that awareness takes a lot of training... it's very difficult. And I don't think that it's practical on a large scale. So that's why we rely, and we're going to rely, on other kinds of crutches for people. Whether it's a chair that helps take the load off, or whether it's a wrist rest, or whatever it is, to help people sit for a prolonged period of time."

AWARENESS TRAINING

The key word is "training" which is the one thing Dr. R says office workers need most. He says it includes knowing how to listen to your body, when to take breaks, how to modify your tasks to balance some of the work you're doing with your body.

Second, he recommends breaks during the work period. According to Dr. R., "I think the work/rest cycle is critical. Exercises allow people to move the muscles around and relieve some of the confined posture people move into when they're behind a keyboard."

A training program for office workers should certainly teach and encourage efficient use of the body. The complete solution is an exercise program that teaches workers how to improve posture and body mechanics. Each time workers use the exercises, their posture and body mechanics will improve slightly. Exercise breaks will be needed as long as computers are used in the offices. It took time to develop the circumstances and behavior that produce RSIs. It is going to take time to change them.



VACATION SAFETY

So you have waited and waited for this special time – vacation! Even though you are anxious to get started, take

the time to pack safety along with your clothes, food and maps.

FOLLOWING ARE A FEW TIPS FOR HELPING YOU PLAN A SAFE TRIP:

~ **Timing is everything. Build plenty of break time into your schedule. Plan to take a short stretch break at least once every hour or two.**

~ **As you drive, do not stare at any area or object. Get the “big picture” of your surroundings. Change your area of focus often to help avoid tiredness.**

~ **Keep an eye on your driving neighbors because they may not be as prepared for travel as you are. Always expect the unexpected from other drivers.**

~ **If you have kids, plan to take along some fun, easy games for them to play to keep them occupied. Also, pack a dispenser of pre-moistened wipes for quick cleanups.**

~ **Change your sitting position often to avoid fatigue. Do not recline your seat because this could cause you to feel too relaxed.**

~ **Do not exceed the speed limit. Arriving late but alive is preferable to not arriving at all because you were involved in an accident. The speed limit is based on normal driving conditions. Take into account the weather and road conditions when setting your travel speed.**

~ **Drive with your headlights on. Even in the daylight your headlights help you be more visible to other drivers.**

~ **Make the best of your drive. It is a major part of your vacation time, so enjoy the scenes and areas through which you are traveling.**

~ **You could also include some snacks and other foods.**

Safety has no quitting time, and should be part of everything we do, including our vacation time. If you get hurt while traveling, your vacation won't be very much fun.




The NAS JAX Occupational Safety and Health Office

Wishes you a Safe and Enjoyable Fourth of July



July 2005

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Schedule of NAVOSH related training, located in bldg #1, Classroom #128.

SMART CAR CARE

Tips for keeping your vehicle safe and on the road.



Count on ShellSM



Proper car maintenance could prevent 5 million breakdowns each year. Each one of these breakdowns costs consumers an average of \$400 annually in motor vehicle damage and other expenses, totaling more than \$2 billion a year due to car neglect.

Stick to Your Routine (Maintenance)

Next to a home, a vehicle is probably the most expensive purchase people make. That's why it makes good economic sense for owners to take

proper care of their vehicles through preventive and routine maintenance.

Following the quick and simple procedures outlined in this booklet will not only add years to the life of your vehicle, but will help keep it operating in a safe and cost-efficient manner.

Plus, finding and fixing a smaller problem before it turns into a major problem can help save you a bundle.

Note: This booklet is intended to provide a general overview of routine

maintenance.

Because there are so many different makes and models of vehicles and auto parts and accessories, recommended procedures may vary. Please consult your owner's manual or the product manufacturers for recommendations.



Keep Your Vehicle a Well-Oiled Machine

A regular oil change is the service most likely to prolong the life of your vehicle; yet, recent nationwide vehicle inspections found that 22 percent of vehicles have low or dirty engine oil, indicating that many motorists fail to perform this important task. Not changing your oil for lengthy periods of time will cause additives in the oil to break down, leading to increased wear and tear on your engine.

To keep your vehicle running smoothly:

- Check the oil level regularly.
- Change the oil every 3,000 miles or every three months, whichever comes first, unless your manufac-

turer recommends otherwise. Some newer vehicles need less frequent oil changes.

- Replace the oil filter with every change.

For an accurate reading of your oil level, shut off the engine, remove the dipstick, wipe it with a clean cloth or paper towel and then reinsert it. Remove the dipstick again to “read” the oil level.

Go with the Flow: Your Vehicle’s Fluids

Engine oil is not the only fluid your vehicle needs to run properly. Other vital fluids include brake fluid, power steering fluid, transmission fluid and coolant. Checking them on a regular basis can prevent breakdowns and costly repairs.

Your owner’s manual can show you where fluids are contained, exactly how to check them, the type your vehicle uses and how much should be in each “reservoir.” The chart in this booklet also offers basic tips and suggested frequency of fluid checks.



Recognizing Fluid Leaks

If you see drops of fluid under your vehicle, you should be able to identify them by color or consistency. A few small drops are probably not a cause for concern, but you should take note of small puddles.

- If the fluid is **yellow-green, blue** or **fluorescent orange**, it could indicate a cooling system leak or an overheating problem.
- If the fluid is **dark brown** or **black**, it is most likely engine oil. The engine could have a bad seal or gasket or a loose oil filter.
- A **red** oily spot means you probably have a transmission or power steering fluid leak.
- A **puddle of water** is usually normal and is simply condensation from the air conditioning system or the defroster.

Know the Positives and Negatives of Your Battery

Cars run on three components: fuel, air and electricity. Many people never think of vehicles as being “electronic,” but they are complex machines with many electronic components, ranging from the radio to on-board computers. The battery is the primary source of power for these electronic components, so it is important to make sure it is working properly.

Batteries can fail for a number of reasons, including insecure mounting, frequent “deep cycling” (the recharging of a dead battery) and dirty or poor connections. Here are some ways to help prevent your battery from failing and leaving you stranded:

- Have the battery checked with every oil change.
- Cables should be securely attached and free of corrosion. You can clean the battery terminals and case with a mixture of baking soda and water.
- Don’t wait until your battery fails before you replace it. Vehicles that are three years old or older are most likely to experience battery failure.



Corrosion on battery terminals or connections (top picture) can result in poor battery performance. Be sure cables are securely attached and corrosion-free (bottom picture). Felt rings positioned around the battery post under the clamp can help protect against corrosion.

Know Your Car

The Ten-Minute Checklist

+Air Filter



- Check every two to three months.
- A dirty air filter reduces gas mileage and the lifespan of your motor.
- Replace it when it is dirty or during your annual engine performance check.
- If you drive in very dusty conditions, you may need to check your air filter more frequently.

Battery



- Have the battery checked with every oil change and periodically check cables for corrosion.
- Use of felt rings, available at any auto parts store, will reduce corrosion (see photo on page 3).
- Consider replacing your battery if it is three years old or older.

Belts and Hoses



- Check monthly.
- If your belts or hoses look or feel hard, spongy, cracked or shiny, they should be replaced right away.
- It's best to leave the replacement to an expert.
- Also, be on the lookout for loose, cracked or missing clamps.

Brake Fluid



- Check monthly.
- First, wipe any dirt from the master brake cylinder cover. Then remove the cover.
- If you need fluid, add the proper type (refer to your owner's manual) and check for possible leaks. Don't overfill.

Brake System



- Experts recommend having your brake system thoroughly inspected once a year or every 12,000 miles, whichever comes first.

Coolant/ Antifreeze



- Check frequently.
- You should be able to see the level of coolant in the reservoir.
- Follow the manufacturer's instructions to determine if the level is low.
- If necessary, add coolant to the reservoir — NOT the radiator — and fill to the proper level.

Engine Oil



- Check oil level regularly (twice a month is ideal).
- Have the oil (and oil filter) changed every three months or every 3,000 miles, whichever comes first, unless your vehicle's manufacturer specifies otherwise.

Lights



- Check regularly to ensure they are clean and in good working order.
- Remember to check:
 - ✓ Headlights
 - ✓ Taillights
 - ✓ Brake lights
 - ✓ Turn signals

Power Steering Fluid



- Check monthly using the reservoir dipstick.
- If low, add the proper type of fluid (refer to your owner's manual).
- Inspect the pump and hoses for leaks.

Shock Absorbers



- Test once every two to three months by bouncing your car up and down; when you step away, the car should stop bouncing.
- Always replace shock absorbers in pairs.

Tire Pressure



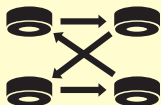
- Check monthly when tires are cold — that is, when they have not been used for at least three hours — using a tire gauge.
- For proper tire inflation, refer to your owner's manual or the label on the driver's side door edge or in the glove compartment of your vehicle.
- The number molded into the sidewall of your tires is the maximum, not the recommended, tire pressure.

Wheel Alignment



- Have the alignment checked immediately if the vehicle feels “loose,” “pulls” to one side or if there is uneven tire wear.

Tire Rotation



- Have your tires rotated approximately every 6,000 miles or with every other oil change.

Tire Tread



- Look for uneven wear, separation or excessive smoothness.
- Replace tires immediately if the tread has worn down to 1/16 of an inch or less.
- Use a measuring device or the “penny test” described in this booklet to measure.

Transmission Fluid



- Automatic:
 - ✓ Check your owner’s manual for the exact procedure.
 - ✓ Most vehicles should be running at normal operating temperature with the parking brake firmly set.
 - ✓ Then shift the transmission into park or neutral (refer to the owner’s manual or look on the dipstick), remove the dipstick, wipe it clean, fully reinsert it and remove it again.
 - ✓ Read the fluid level and add fluid of the recommended type as needed.
- Manual:
 - ✓ Checking the fluid on a manual transmission is better left to a service professional, as the car must often be raised.

Washer Fluid



- Check the washer fluid reservoir regularly and add fluid as needed.

Wiper Blades



- Check at least twice each year for signs of wear.
- Replace if wipers streak or smear.
- Don’t wait until the rubber is brittle or worn.

Changing a Tire — Yourself!

It is very likely that someday you will find yourself with a flat tire no matter how careful you are. These simple steps will assist you in changing your tire the right way.

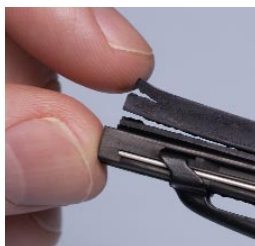
1. After pulling off the road and stopping in a safe place, put the car in park and apply the parking brake. If your car has standard transmission, place the gear shift in reverse or first gear. Park on level ground if possible.
2. Retrieve the spare tire, jack and lug wrench. Remove any hub cap with the lug wrench.
3. Before lifting the car with the jack, first loosen each lug nut one turn counterclockwise while the car is still on the ground.
4. Place the jack under the reinforced section of the car's body. The location of these sections is listed in your owner's manual. Jack up the car until the flat tire is several inches off the ground. **WARNING:** Never place your hands or feet under the vehicle or tire once it has been raised.
5. Remove the lug nuts and remove the wheel.
6. Place the spare tire on the axle and align the holes. Replace the lug nuts and tighten each lightly.
7. Lower the car, and remove the jack. Then use the wrench to firmly tighten each lug nut.
8. Have the flat tire repaired or replaced and reinstalled right away.



Check Wipers & Washer Fluid Intermittently

Like other components, windshield wipers also wear out and need to be replaced. Not being able to see clearly while driving is very dangerous. In fact, 90 percent of all driving decisions made are based solely on visual cues. That's why car care experts recommend wipers be changed once a year for cars that are parked inside and two to three times a year for cars that are parked outside. A good rule of thumb to follow is: "change your clocks, change your wipers." Here are some other tips:

- You can tell when a blade is becoming worn out if it just streaks and smears the water rather than wiping it away.
- Inspect the wiper blades whenever you clean your windshield. Do not wait until the rubber is worn or brittle to replace them.
- Most of the time, only the rubber squeegee, usually called the "refill," needs to be replaced.
- When buying a blade, take the old rubber squeegee with you to the store so you can compare sizes.
- When refilling the windshield washer fluid, use some of the fluid to clean the wiper blades.



Light the Way to Safer Driving

Lights are one of your vehicle's most important safety features. They help you and other drivers make decisions based on visual cues. However, recent statistics indicate that 20 percent of vehicles tested are operating with at least one external light not functioning. Therefore, it is important to check your lights often to make sure they are clean and in good working order. This includes your headlights (both low and high beams),

parking lights, blinkers, taillights and brake lights.

- If any of these lights is not in working order, you can be ticketed.
- Typically, if any of these lights is not working, all you will need is an inexpensive bulb or fuse.

Help Your Tires Tread Lightly

There are many factors that affect the life of your tires: weather, usage, inflation, vehicle alignment and wheel balance. Perhaps the easiest factor to control is your driving behavior. Simply following these good driving habits will help extend the life of your tires:

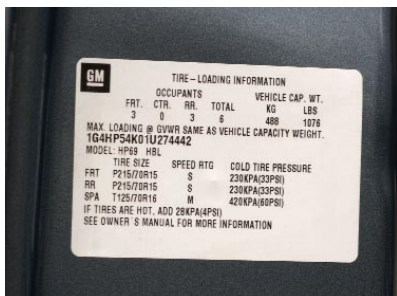
- Obey posted speed limits.
- Avoid fast starts, stops and turns.
- Avoid potholes and other objects on the road.
- Do not run over curbs or hit your tires against the curb when parking.
- Do not overload your vehicle. Refer to your vehicle's tire information or owner's manual for the maximum recommended load.



You also should check your tires — including the spare — at least once a month for proper inflation and tread wear. A tire can deflate about one pound per square inch (psi) for every 10 degrees Fahrenheit drop in temperature. When the temperature rises, pressure may increase. Be sure to check your tires when they are cold — that is, when your vehicle has not been used for at least three hours.

For proper tire inflation, refer to your owner's manual or the label on the driver's side door edge or in the glove compartment of your vehicle. Don't be confused by the number molded into the sidewall of your tire; it is the tire's maximum, not recommended, inflation.

Your manufacturer's recommended tire inflation is often indicated on a label on the driver's side door edge.



GM TIRE - LOADING INFORMATION

OCCUPANTS			VEHICLE CAP. WT.	
FRT.	CTR.	RR.	TOTAL	
			KG	LBS
3	0	3	6	408
MAX. LOADING @ GVWR SAME AS VEHICLE CAPACITY WEIGHT.				
TG4HP54K01U274442				
MODEL HP59 HBL				
TIRE SIZE		SPEED RTG	COLD TIRE PRESSURE	
FRT	P215/70R15	S	230KPA(33PSI)	
RR	P215/70R15	S	230KPA(33PSI)	
SPA	T125/70R16	M	420KPA(60PSI)	
IF TIRES ARE HOT, ADD 28KPA(4PSI)				
SEE OWNER'S MANUAL FOR MORE INFORMATION				

Remember this checklist to help your tires last longer

- **Pressure** — One-fourth of all cars and one-third of all light trucks have at least one substantially underinflated tire. Underinflated tires can cause blowouts and tire failure, which can lead to serious accidents. And appearances can be deceiving — a tire can lose up to half of its air pressure and not appear to be flat. Overinflation, on the other hand, puts unnecessary stress on tires, which can result in irregular tread wear. Check tire inflation with an accurate gauge. They can be found in any auto parts store and most service stations.

- **Alignment** — Improper alignment of your car's steering mechanisms — including the front and rear tires and the steering wheel — can reduce the lifespan of your tires by thousands of miles. Have a tire dealer check the alignment if you notice:

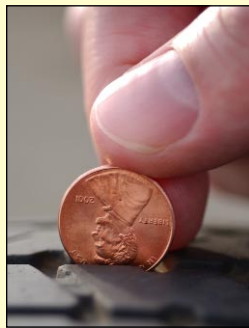
- Excessive or uneven tire wear;
- The steering wheel “pulling” to the right or the left;
- A feeling of “looseness” or “wandering”;
- Steering wheel vibration;
- The steering wheel is not centered when the car is moving straight ahead.

- **Rotation** — If you fail to rotate your tires, the front tires may last only 10,000 – 20,000 miles, while the rear tires will last 50,000 – 80,000 miles. Therefore, to achieve more uniform wear, experts recommend that you have your tires rotated every 6,000 miles. Refer to your vehicle's owner's manual for correct pattern rotation. Common patterns include

straight forward and straight back or crisscrossed.

- **Tread** — Advanced and unusual wear can reduce the ability of tread to grip the road in adverse conditions — especially on wet roads. When checking tires, look for uneven wear, high and low areas, bubbling or excessively smooth areas, as well as cuts or foreign objects in your tires.

- Tires must be replaced when tread has worn down to 1/16 of an inch. Quick tip: If you don't have a measurement device handy, you can simply use a penny to check tread depth. Insert a penny with the head pointed down into the tread groove. If you can see all of Lincoln's head, your tires need to be replaced.



Checking tread wear is a simple but important part of keeping safe on the road. Use a measuring device (left) or the “penny test” (right) to check for worn tread.

- When shopping for new tires, it is usually best to replace all four at the same time — if you have been rotating your tires as recommended. You also should think about the type of driving you do most often and choose tires that are right for you.

Conserve Fuel

Non-commercial vehicles in the United States consume close to 90 billion gallons of gasoline each year — that's 661 gallons per car. While many of the tips in this booklet will help increase your vehicle's fuel mileage, there is even more you can do to maximize fuel efficiency:

- Avoid high speeds, as fuel efficiency decreases significantly at speeds in excess of 55 miles per hour.

Reducing your speed from 62 mph to 55 mph reduces fuel consumption by 10 percent.

- Avoid excessive idling. If you must warm up the engine, one to three minutes should be sufficient.



- Don't rev the engine; it wastes gas and may cause engine damage.
- Drive smoothly and avoid sudden braking and starting.
- Minimize drag by keeping your car clean, driving with windows and sunroofs closed and removing roof and rear racks. Having a clean car can reduce drag by as much as 12 percent.
- Be sure to replace the gas cap tightly to prevent gasoline from evaporating.

- During the summer, fuel your car early in the morning or late in the evening. Heat expands gasoline, so you'll spend more money for less gasoline if you refuel during the afternoon.

While the tips in the booklet will help lengthen the life of your vehicle and enhance the safety of its occupants, they are not a substitute for the recommendations of a qualified auto technician or your vehicle's owner's manual. Though preventive maintenance will minimize the chance for breakdowns, it is important to be prepared by traveling with an emergency kit that includes water, jumper cables, flashlight, flares and basic tools — and a cell phone.

This booklet was written with assistance from the National Highway Traffic Safety Administration (NHTSA), the National Institute for Automotive Service Excellence (ASE), the Rubber Manufacturers Association and the AAA Foundation for Traffic Safety. For further information, visit the following Web sites: www.nhtsa.dot.gov, www.ascert.org, www.rma.org and www.aaafoundation.org.

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